The official voice of the Air Force Research Laboratory
news@afrl
Features
October 2003

MN partners with Eglin units for S&E Immersion Program

by Lt. Col. Mark Koch, Munitions Directorate

EGLIN AIR FORCE BASE, Fla. — Air Force Research Laboratory junior scientists and engineers (S&Es), both military and civilian, bring strong science and engineering skills to their jobs.

Often, first assignment S&Es have a limited understanding of how technology they develop will be operationally employed. The advent of "technology to warfighting" as an Air Force core competency has reinforced the need for AFRL employees to increase their knowledge of the operational environment. To give junior S&Es the operator's perspective, the Air Force Research Laboratory Munitions Directorate (AFRL/MN) recently partnered with other Team Eglin units to start a program called the Scientist and Engineer (S&E) Immersion Program.

The objectives of the Scientist and Engineer Immersion Program are two-fold: Familiarize junior scientists and engineers with operational considerations aircrews must fully understand to successfully employ weapons and return unharmed; and develop working relationships at the action officer level in the user community. This program, while obviously beneficial in the short term, will also imbue the technology leaders of tomorrow's Air Force with an operational context for guiding the development of future warfighting capabilities.

Because Eglin physically brings together specialties ranging from scientific research to developmental and operational testing to actual warfighting, opportunities to increase "technology to warfighting" are limited only by one's imagination and motivation. The 85th Test and Evaluation Squadron readily jumped in to help. Capt. John Wilbourne and Capt. Mike Kensick, of 85TES, created a course of instruction to familiarize junior AFRL S&Es with both air-to-air and air-to-ground operations. It might sound easy to develop a curriculum covering something so familiar to the instructors, but a big concern was ensuring the pilots and engineers started from common ground and spoke a "common language." After all, tactics discussions and rules of engagement are not normal lunchtime conversation in the lab. Wilbourne and Kensick spent several weeks of their free time working around a heavy schedule of real-world taskings, to refine the curriculum for initial presentation. The 33rd Fighter Wing also participated by evaluating different venues to expose S&Es to a simulated operational environment. Due to real-world commitments, the 33FW had to postpone their participation.

So far 25 junior scientists and engineers have taken part in the S&E Immersion Program. Feedback from both the S&Es and the operational community has been very positive with both groups learning from the other. AFRL/MN currently plans to require all junior military and civilian S&Es to participate in the program as an in-processing requirement.

The curriculum is straightforward. The program takes the participants through a mission-planning scenario using typical rules of engagement and tactics for a current strike package (both air-to-air and air-to-ground) against a representative integrated air defense system. The instructors also discuss with the participants what areas could be improved to reduce workload, increase lethality and/or improve survivability. In the future, the program will hopefully be expanded to include observation and hands-on simulator time at the 33FW Mission Training Center. Additionally, AFRL/MN is working with the 46th Test Wing to get the junior S&Es exposure to the developmental test business, providing them a better appreciation for how technology gets from the bench to the field and what pitfalls systems might face due to unanticipated design problems. Further, the 46TW will show the students much of the "back shop" support normally found in an operational unit, furnishing the S&Es a first hand look at how design decisions may have unanticipated consequences on reliability, availability, and maintainability. Finally, in an effort to strengthen its relationship with the user community, AFRL/MN also plans to add an aspect to the S&E

continued on page 2

continued from page 1

Immersion Program where all the Team Eglin partners involved in the joint venture will receive information on how the lab works and what it is doing. To gain a better understanding of how technology ideas make it to the field, other Team Eglin members will see how programs like Massive Ordnance Air Blast were executed as well as seeing some projects still in the concept pipeline. @